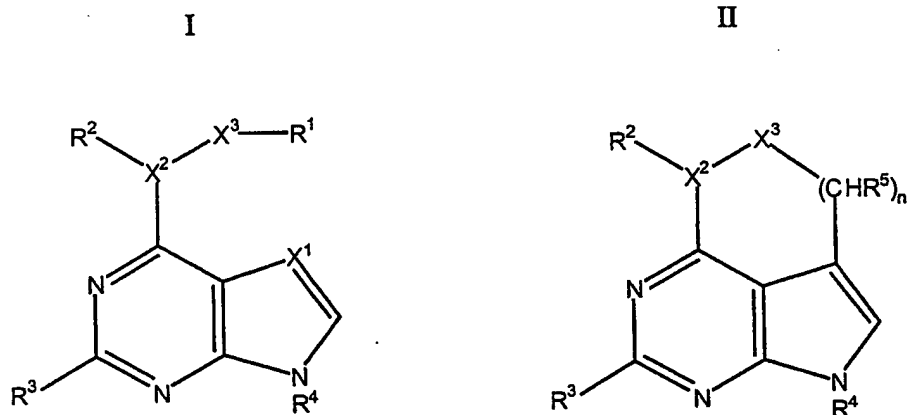


Claims

1. A pharmaceutical composition comprising a ribonucleoside analogue in accordance with general formula I or II



where:

$n = 1-4$ , preferably 2-4,

$X^1 = N$  or  $CH$  or  $CR^5$

$X^2 = N$  or  $S$  or  $CR^5$

$X^3 = NR^6$  or  $O$  or  $S$  or  $R^6$  when  $X^2 = N$ , or  $X^3 = NR^6$  or  $R^6$  when  $X^2 = S$ , and  $X^3$  is absent when  $X^2 = CR^5$

$R^1 = H$  or alkyl or aryl or alkaryl or acyl

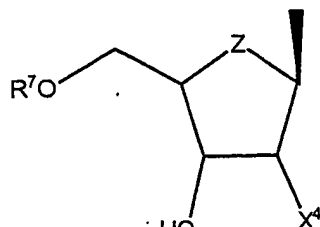
$R^2 = H$  or alkyl or aryl or alkaryl or acyl; when  $X^2 = S$ ,  $R^2$  is absent;

$R^3 = H$  or  $NR^5R^6$  or  $NR^5NR^5R^6$  or  $NR^5OR^5$

$R^5 = H$  or alkyl or alkenyl or alkynyl or aryl or alkaryl or acyl

$R^6 = H$  or alkyl or alkenyl or alkynyl or aryl or alkaryl or acyl and

$R^4 = H$  or



wherein

$Z = O$  or  $S$  or  $CH_2$  or  $CHF$  or  $CF_2$  or  $NR^5$

$X^4 = OH$  or  $F$

$R^7 = H$  or  $PO_3^{2-}$  or  $P_2O_6^{3-}$  or  $P_3O_9^{4-}$  or a masked phosphate derivative,

in admixture with a physiologically acceptable excipient, diluent or carrier.

2. A pharmaceutical composition according to claim 1, wherein the ribonucleoside analogue is provided as the base analogue or the ribonucleotide analogue.
3. A pharmaceutical composition according to claim 1 or 2, wherein the ribonucleoside analogue comprises a purine analogue.
4. A pharmaceutical composition according to any one of claims 1, 2 or 3 which, following administration to a human or animal subject, gives rise to a chemical entity which, inside a cell of the subject, is incorporated into a RNA molecule by a cellular, or preferably viral, RNA polymerase present in the cell.
5. A pharmaceutical composition according to claim 4, wherein the cell is infected by an RNA virus, the RNA molecule is an RNA copy of at least part of the viral genomic nucleic acid molecule.
6. A pharmaceutical composition according to any one of the preceding claims, wherein the ribonucleoside analogue is such that  $Z$  is  $O$ .
7. A pharmaceutical composition according to any one of the preceding claims, wherein  $X^2$  comprises  $N$ .
8. A pharmaceutical composition according to any one of claims 1-7, wherein  $X^3$  is  $O$  or comprises  $N$ .

9. A pharmaceutical composition according to any one of claims 1-8, wherein  $X^4$  is OH.
10. A pharmaceutical composition according to any one of the preceding claims, wherein  $X^2$  is N and  $X^3$  is  $NH_2$ .
11. A pharmaceutical composition according to claim 10, comprising a ribonucleoside analogue having the structure shown in Figure 3 or Figure 7.
12. A pharmaceutical composition according to any one of claims 1-9, wherein  $X^2$  is N,  $X^3$  is O and  $R^1$  is alkyl.
13. A pharmaceutical composition according to claim 12, wherein  $R^1$  is methyl or substituted methyl.
14. A pharmaceutical composition according to claim 13, comprising a ribonucleoside analogue having the structure shown in Figure 11, or the corresponding ribonucleotide analogue.
15. A method of making a pharmaceutical composition suitable for preventing and/or treating an RNA virus infection in a human or animal subject, the method comprising the step of mixing a ribonucleoside analogue in accordance with general formula I or II with a physiologically acceptable excipient, diluent or carrier.
16. A method according to claim 15, performance of which results in the preparation of a pharmaceutical composition in accordance with any one of claims 1-14.
17. A method according to claim 15, comprising the step of combining a plurality of different ribonucleoside analogues, each analogue being in accordance with general formula I or II.

18. A method according to claim 15 or 16, comprising the step of including in the pharmaceutical composition a further antiviral agent.
19. A method according to claim 18, wherein the further antiviral agent is an inhibitor of reverse transcriptase.
20. A method according to claim 18, wherein the further antiviral agent is active against HIV or other retrovirus.
21. A method according to any one of claims 15-20, further comprising the step of packaging the composition in unitary dose form.
22. Use of a ribonucleoside analogue according to general formula I or II in the preparation of a medicament to prevent and/or treat an RNA viral infection in a human or animal subject.
23. Use of a ribonucleoside analogue according to general formula I or II in the preparation of a pharmaceutical composition according to any one of claims 1-14 to prevent and/or treat an RNA viral infection in a human or animal subject.
24. A method of treating an RNA virus infection in a human or animal subject, the method comprising the step of administering to a subject infected with an RNA virus an effective amount of a ribonucleoside analogue in accordance with general formula I or II.
25. A method according to claim 24, comprising administering to the subject a pharmaceutical composition in accordance with any one of claims 1-14.
26. Use of a ribonucleoside analogue in the preparation of a medicament to prevent and/or treat an RNA virus infection in a human or animal subject by inhibiting LTR-mediated transcription of viral nucleic acid.

27. A use according to claim 26, wherein the ribonucleoside analogue has the structure shown in Figure 2 or is the corresponding ribonucleotide analogue.
28. A use according to claim 26, wherein the medicament is a pharmaceutical composition according to any one of claims 1-14.
29. A pharmaceutical composition according to any one of claims 1-14 which, when administered to a human or animal subject infected with an RNA virus, inhibits replication of the virus and/or causes an increase in the mutation frequency of the virus.
30. A pharmaceutical composition according to any one of claims 1-14 which, when administered to a human or animal subject infected with an RNA virus, causes inhibition of LTR-mediated transcription of viral nucleic acid.
31. A pharmaceutical composition according to any one of claims 1-14 which, when administered to a human or animal subject infected with an RNA virus, causes inhibition of LTR-mediated transcription of viral nucleic acid.
32. A composition suitable for application to a plant, for the purpose of preventing and/or treating an RNA virus infection of the plant, the composition comprising an RNA nucleoside analogue conforming to general formula I or II.
33. A composition according to claim 32, further comprising a surfactant and/or a plant penetration enhancer.
34. A method of preventing and/or treating an RNA virus infection in a susceptible plant, the method comprising the step of applying to the plant an effective amount of a composition according to claim 32 or 33.
35. A pharmaceutical composition substantially as hereinbefore described and with reference to the accompanying drawings.

36. Use of a ribonucleoside analogue according to general formula I or II in the preparation of a medicament to prevent and/or treat an RNA virus infection substantially as hereinbefore described and with reference to the accompanying drawings.